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ABSTRACT

This report describes two exploration studies which examined the development of infants' intermodal knowledge by examining infants' auditorily guided visual search for objects. Experiment 1 examined intermodal search for the mother and father by 9 infants at each of three age levels: 3, 5, and 7 months of age; the final sample was 23 infants. Experiment 2 examined the search by 36 four-month-old infants for their mothers and fathers or for their mothers and either a familiar or unfamiliar adult woman. All infants participated in both a tape-recorded and a live voice episode in which they sat with their two parents in view and heard each parent speaking in turn. In the tape-recorded voice episode, neither adult was seen to speak and neither was positioned in the apparent spatial direction of the sound. In the live voice episode, the auditory and visual information for speech by each parent was collocated and temporally synchronous. The infants' visual search for the parents was observed in each condition. Results were interpreted as showing that older infants revealed intermodal knowledge of the mother and father through their visual search for the parent whose tape-recorded voice was played. Although the behavior of the 3-4-month-old infants was less consistent, it was concluded that they also appeared to engage in some auditorily guided looking. Results indicate that infants' exploration can be guided by the intermodal relationships they have come to know. (JMB)

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Intermodal Exploration and Perceptual Knowledge in Infancy

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A version of this paper was presented at the meetings of the Society for Research in Child Development, New Orleans, March, 1977.

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Abstract

Two experiments investigated the infant's intermodal knowledge of his parents. Infants tended to look to a speaking parent even when auditory and visual information were not collocated or temporally synchronous. Auditory-visual exploration was guided by knowledge that the seven month old, and possibly the four month old, has attained. Perceivers learn at an early age that familiar sounds specify objects with distinctive visible characteristics.

An adult can experience objects with multimodal properties from stimulation in one modality alone. The rock that he sees is perceptibly rigid and solid (Gibson, 1969); the vehicle that he hears has visible and tangible characteristics (James, 1890). Knowledge of the multimodal properties of objects underlies these common perceptual experiences. An adult typically knows a good deal about the visible appearance of an object he hears, the auditory characteristics of an event he sees, and the tactual impressions which a seen or heard object creates.

Intermodal knowledge is closely related to intermodal exploration. A perceiver will best acquire knowledge of the manifold properties of an object if he seeks and attends to multimodal information. The knowledge he acquires will consequently make future investigations of the object more efficient (see Neisser, 1976). The complementary relationship between exploration and knowledge may be used to advantage in experimental studies, as the present research will illustrate. One may be able to infer what a perceiver knows about objects by observing his intermodal investigations.

Debate over the nature and the origin of intermodal knowledge has continued for centuries and has in recent years stimulated research with human infants. Intermodal knowledge in infancy has been investigated through two paradigms: studies of conflict and studies of exploration. In a conflict experiment, visual and auditory or visual and tactual information are rearranged

so as to give discrepant information about a single event. The infant's response to the rearrangement is observed. For example, infants as young as 30 days have been reported to show conflict (indexed by "tonguing") when faced with an object that was not heard in the direction from which it was seen (Aronson & Rosenbloom, 1971). Babies as young as 6 days reacted with "frustration and tears" to an object which could not be felt in its visible location (Bower, Broughton, & Moore, 1970). These findings have met with skepticism, however, owing to failures of replication (Condry, Haltom, & Neisser, 1977; Field, 1977; McGurk & Lewis, 1974), and to the ambiguities involved in attributing a particular activity to a state of conflict.

In an exploration experiment, information about an object is presented to an infant in one modality and his subsequent investigations are observed. An infant below four months will reach, grasp, or engage in activities precursory of skilled manipulation when he sees an object of graspable size (Bower, 1972; Bruner & Koslowski, 1972). Infants will also look at patterns or events in the same direction, or with the same temporal structure, as an accompanying sound (Mendelson & Haith, 1976; Spelke, 1977). These observations suggest that a very young infant knows something about the multimodal properties of objects. They do not support the empiricist position that stimulation in different modalities produces impressions that only become interrelated through prior experience.

All intermodal knowledge, however, is not innate. A voice, for example, specifies a particular visible person only to the perceiver who has become acquainted with that person. Future research may fruitfully probe the nature of the human capacity for intermodal learning.

Two conflict experiments provide evidence that the young infant's innate capacities may be supplemented by an ability to learn of the multimodal attributes of objects. Lyons-Ruth (1974) investigated learning about the auditory-visual properties of an inanimate object. A moving object was shown to four month old infants while, from the same direction, a sound occurred in synchrony with its movements. During a test which immediately followed, the sound was played from a different direction, in which the original object or a different object was presented. Infants were reported to show "gaze aversion" when they encountered a new object in the direction of the familiar sound. An infant appears to expect to see, at the location of a sound, the object which has been paired with that sound in the past.

Lewis and Hurowitz (1977) examined the development of an "intermodal person schema." Infants at one and four months watched and listened to the mother or to an unfamiliar woman. When a discrepancy was introduced, and the infant saw one person while hearing the other, he responded with heightened visual exploration. The authors concluded that an infant expects to hear his mother's voice when and where he sees her face. This expectation

could have been based either on acquired knowledge of the mother's face and voice or on an ability--conceivably innate--to perceive the synchrony or asynchrony of heard speech and seen speaking movement. Other research indicates that young infants are not highly sensitive to the auditory-visual structure of speech (Spelke, 1977); thus, acquired knowledge may underlie the intermodal person schema. Cohen (1973), however, has tested this possibility with a similar conflict experiment that controlled for possible effects of temporal synchrony by using tape-recorded sounds. She found no effect of a face-voice mismatch between the mother and a female stranger on the visual attention of infants below eight months of age. The existence of acquired intermodal knowledge of a parent has not been established.

We report two studies of exploration which probed the infant's developing intermodal knowledge. They examined his auditorily guided visual search for objects. The infant saw two objects and heard a sound which was specific to one of them. Sound and visible object were not localized in the same direction and were united by no synchronous temporal structure. We observed whether the infant would look to the object that he heard, bringing acquired knowledge to bear on his intermodal investigation.

The general goals of the research were to determine if a young infant can acquire knowledge about the auditory-visual characteristics of objects and if he manifests knowledge through intermodal exploration. The specific experimental objective was to

determine if and when an infant develops auditory-visual knowledge of his parents. Experiment 1 examined intermodal search for the mother and the father by infants at 3½, 5½, and 7½ months of age. Experiment 2 examined the four month old's search for his mother and father or for his mother and a second adult woman.

Experiment 1

Each infant participated in a tape-recorded voice episode followed by a live voice episode. In both episodes, he sat with his two parents in view and heard each parent speaking in turn. We observed his visual search for the parents. In the tape-recorded voice episode, neither adult was seen to speak, and neither was positioned in the apparent spatial direction of the sound. An infant's looking to the speaking parent could only be guided by knowledge of the visible object which that voice specified. In the live voice episode, the auditory and visual information for speech by each parent was collocated and temporally synchronous. This condition was included to determine if infants would turn to look to a speaking parent when added sources of information were available.

Method

Subjects. Twenty-seven infants participated in this experiment: nine at each of three age levels. The youngest group of infants ranged in age from 3 months, 8 days to 4 months, 7 days (mean age = 3 months, 20 days). The middle group ranged from

4 months, 28 days to 6 months, 1 day (mean age = 5 months, 16 days). The eldest group ranged from 7 months, 1 day to 7 months, 29 days (mean age = 7 months, 18 days). Infants were healthy and full term and lived in or near Ithaca, NY. Race, sex, and socio-economic status were not controlled. Parents were recruited by letter and by telephone from the birth records of local newspapers, and they were reimbursed for their transportation. One of the infants in the sample, a 3½ month old, failed to complete the live voice episode due to fussiness. Three additional infants participated in the experiment but were not included in the final sample because crying brought an early termination to the tape-recorded voice episode.

Procedure. Each baby was placed in a reclinable infant seat facing midway between his parents, who sat facing him. The lateral positions of the mother and father randomly varied across infants. The distance from the infant's face to either parent's face was about 90 cm. The infant could look directly at a parent by turning about 30° to the left or right of center. An experimenter crouched below the infant, out of sight, with a collection of small toys. Immediately before each trial, he attempted to draw the baby's gaze to a position midway between the parents by waving a toy. The experimenter did not know which parent would speak on each trial.

In each episode, an infant heard each parent speaking to him eight different times. Every infant heard these voices in a

different order; orders were random with the restrictions that neither parent speak more than three times in succession, and that each parent speak four times within the first eight trials. On each trial, a parent spoke for one to four seconds. Eight seconds after the beginning of one voice trial, the next voice began. Parents had been asked to speak as if they were talking to their baby and trying to get his attention. They were cued to begin each trial by a soft beep.

For the first episode, voices were recorded prior to the experimental session by a second experimenter. The tape-recorded voices were played in stereo through speakers located behind each parent; to an adult, they were most easily localized between the parents. Parents were asked to sit quietly during the session and to refrain from initiating interactions with the baby. For the live voice episode, which followed a 5 minute break, parents actually spoke to their infant. A parent's voice was localized in the place where he could be seen, and his face was seen to move as his words were heard. The two episodes were otherwise identical.

Dependent measures. The infant's face and the parents' voices were videorecorded throughout the experimental episodes. Parents were not identifiable on the video screen although a shoulder was occasionally visible. After all subjects had participated in the experiment, the videotapes were scored. Each infant's looking to the left and to the right was coded in two ways, and four measures

o. auditorily guided visual search were derived.

All measures excluded trials on which an infant was already looking at either parent when a voice began. An average of 13 trials in each episode remained for analysis. The First look measure specified the adult to whom the baby looked first after the onset of a voice (if any look occurred). The Total looks measure specified the adult (s) to whom the infant looked within 8 sec after the onset of a voice. These measures were calculated by two observers who were unaware of the lateral positions of the mother and father: they recorded looks to the "left" and to the "right." The observers viewed each trial repeatedly until they agreed on a score for each measure. Their reliability with a second pair of observers was calculated on two infants at each age. The proportion of judgments on which the two pairs of observers agreed averaged .73, .70, and .94 for the First look measure and .81, .79, and .89 for the Total looks measure for infants at 3½, 5½, and 7½ months, respectively. The following frequencies were tabulated for each measure by summing over trials for each subject: the number of mother-voice trials on which the infant looked to the mother (the "speaking" parent) and to the father (the "silent" parent), and the number of father-voice trials on which he looked to the father (the speaking parent) and to the mother (the silent parent).

The Latency measure reflected the duration of time which elapsed between the onset of a voice and the infant's first look to each parent. If the infant did not look to a parent within

5 sec, he was given a maximum latency score of 5 sec. The Duration measure reflected the length of time during which an infant looked to each parent on each trial within 5 sec after the voice onset. On trials where no look occurred in this time, the duration of looking was scored as 0 sec. Latency and Duration measures were calculated by a different pair of observers, both unaware of the lateral positions of the mother and father. One observer continuously recorded looking to the left and to the right from the videotape onto an event recorder. The other observer simultaneously recorded the onset of each adult's voice. Latency and duration were calculated from the event record by an assistant who did not know which parent corresponded to the "left look" or "right look" recordings. An additional pair of observers coded the looking of two infants at each age, latency and duration were calculated, and correlations between pairs of observers were assessed. Inter-observer agreement averaged .71, .89, and .79 on the latency measure and .72, .90, and .81 on the Duration measure. The mean latency and duration of looking to the speaking and silent parent, on mother-voice and father-voice trials, were calculated for each infant.

Separate 3 by 2 by 2 mixed factor analyses of variance (ANOVAs) were performed on each of the four measures. The between-subjects factor was Age, and the within-subjects factors were Adult (looking to the mother vs. father) and Speaker (looking to the parent whose voice was heard vs. to the other parent). A further 2 by 3 by 2 by 2 ANOVA compared performance in the two

episodes.

Results.

The results of the tape-recorded voice episode appear in Figure 1. On the First look measure, there was a main effect of Speaker, with a reliable tendency for all infants to look to the parent whose voice was played, $F(1, 24) = 10.22$, $p > .005$ (Figure 1a). There was no effect of Age on the tendency to look to the speaking over the silent parent, $F(2, 24) < 1$. The analysis of the Total looks measure revealed again a highly significant tendency to look to the parent whose voice was heard, $F(1, 24) = 21.24$, $p < .001$, an effect not qualified by an Age by Speaker interaction, $F < 1$ (Figure 1b)[1].

The infants in this experiment looked to the speaking parent somewhat faster than to the silent parent, $F(1, 24) = 6.08$, $p < .025$. Age had no reliable effect on this tendency, $F(2, 24) = 1.77$, $p > .10$, although the magnitude of the difference in latency did appear to increase with age (Figure 1c). The only other significant effect in the Latency analysis was an Age by Adult interaction: 5½ month olds looked faster to the mother while infants at the other ages looked faster to the father, $F(2, 24) = 3.93$, $p < .05$.

On the Duration measure, infants looked longer to the parent whose voice was played, $F(1, 24) = 7.12$, $p < .025$. This effect was qualified by an Age by Speaker interaction, $F(2, 24) = 4.65$, $p < .025$ (Figure 1d). Tests for simple effects indicated that the tendency to look longer to the speaking adult was highly reliable

at 7½ months, F (1, 24) = 16.44, $p < .001$, but was absent at 5½ months, F (1, 24) = 1.47, and at 3½ months, $F < 1$. No other effects emerged in this analysis.

The results of the live voice episode were unequivocal (Figure 2). There was highly significant tendency to look to the speaking parent first (F = 82.12), more often (F = 89.79), longer (F = 60.68), and more quickly (F = 105.85) than to the silent parent, df = 1, 23, all p's < .001. No other effects were significant in these analyses; in particular, there were no hints of an Age by Speaker interaction.

Visual search for a speaking parent was more pronounced in the live voice condition than in the tape-recorded voice condition. The difference in looking first and in total to the speaking over the silent parent was greater in the live episode, F (1, 23) = 24.59 and 43.23, $p < .001$. The difference in latency and duration of looking to the speaking over the silent parent was also greater when a parent actually spoke, F (1, 23) = 19.92 and 17.57, $p <$ .001. The main effect of Speaker was highly significant in all the analyses. There was an Episode by Speaker by Age interaction on the Duration measure, F (2, 23) = 4.69, $p < .025$. Infants at 3½ months looked longer to the speaking than to the silent parent only in the live voice episode.

Discussion

Infants clearly tended to search visually for the parent whose voice they heard. They more often looked first and eventually

to the sound-specified parent, and they looked to that parent more quickly and for a longer period of time. This pattern of search was especially pronounced in the live voice episode. The superiority of this condition probably indicates that an infant's looking can be guided either by the location of a parent's voice or by the visible movements of his face.[2]

The most important finding of the experiment was that appropriate visual search occurred even when looking could not be guided by the spatial direction of a voice or the visible movements of a speaker. In the tape-recorded voice episode, infants used knowledge to direct a visual search for the parent whose voice was played. Infants demonstrated intermodal knowledge of their parents by their patterns of exploration.

The evidence for intermodal knowledge at the younger ages was equivocal. The tendency to search for the parent whose tape-recorded voice was heard appeared to increase with age on several measures; on one measure, this increase was significant, and subsequent analyses revealed no effect of Speaker before 7½ months. Although these negative results could reflect a developmental trend, they could also be caused by the small numbers of subjects in each of the age groups or by the relative insensitivity of the search measures for the youngest infants. It seemed to the experimenters that the youngest infants in Experiment 1 showed some genuine auditorily guided search, intermixed with a good deal of looking that was unrelated to the tape-recorded voices. An

example of apparently genuine search was accompanied by activities that are difficult to quantify but easy to observe: an attitude of increased alertness and of seemingly purposeful, directed looking. Further analyses are necessary to test this possibility. We cannot ascertain from Experiment 1, whether or not an infant below seven months possesses intermodal knowledge of his parents.

A further question remains. In the tape-recorded episode, parents were instructed to face their babies quietly and not to react to the onset of a voice. Parents appeared to follow these instructions. Nevertheless, a parent was able to hear when his own voice was played. It is possible that searching for the speaking parent was guided by vicarious signals from parent to baby.

Experiment 2 was undertaken to resolve these uncertainties. It explored further the intermodal knowledge of four month old infants. Thirty-six infants were observed in the same setting as in the first study, half with the mother and father, and half with the mother and a second adult woman. A fifth measure of auditorily guided looking was added. To examine the possibility of parental signalling to the child, one parent's face was videotaped during some of the sessions, and this tape was monitored by a separate group of observers.

Experiment 2

Method

Subjects. Eighteen infants participated in each condition of this experiment. Those in the Mother-Father Condition ranged

in age from 3 months, 9 days to 4 months, 22 days (mean age = 3 months, 26 days). Those in the Mother-Other Woman Condition ranged in age from 3 months, 7 days to 4 months, 26 days (mean age = 3 months, 23 days). Infants were recruited and selected as in Experiment 1. Two additional babies were eliminated from the Mother-Father Condition because of crying.

Procedure. The procedure was identical to the tape-recorded voice episode of Experiment 1, except as follows. Infants in the Mother-Other Woman Condition participated in the experiment with the mother and a second adult woman. For six of the infants, the woman was chosen by the mother and was familiar to the baby. The remaining twelve babies participated in the study with a research assistant who was unfamiliar to them.

For thirteen subjects, chosen unsystematically, a video recording of one adult's face was made during the episode. The parents' voices were also recorded on videotape. Adults were given the same instructions as in Experiment 1: to face the baby quietly and to refrain from reacting to a voice. These recordings were played silently to each of six college undergraduates. The nature and purpose of the experiment was explained to these observers. They were told when a voice began and were asked to guess whether that voice belonged to the adult they watched. The observers knew that the voice would belong to that adult on half the trials, and that the adult might reveal when his voice was played by attempting to elicit the attention of the

baby whom he watched. The mean proportion of trials on which the observers guessed correctly was .53, a non-significant departure from chance, t (77) = 0.21. No observer achieved a level of accuracy beyond that expected by chance; no adult on videotape was scored by the observers with greater than chance accuracy (for each analysis, $p > .05$, one tailed).

The video record of the baby's face was scored and reduced as in Experiment 1. An average of 13 trials were analyzed in the Mother-Father Condition and 14 trials in the Mother-Other Woman Condition. The data for each condition were analyzed by a 2 by 2 repeated measures ANOVA with Adult (looking to the mother vs. father or other woman) and Speaker as the within-subjects factors.

An attempt was made to develop a more sensitive measure of auditorily guided visual search using a variation of a procedure described by Teller (1973). An observer who was unaware of the lateral positions of the mother and father watched and listened to the videotapes of 27 infants at 3-4 months: he watched the tape-recorded voice episodes of the nine infants in the youngest group of Experiment 1 and the 18 infants in the Mother-Father Condition of Experiment 2. At the end of each episode, the observer was instructed to guess the location of the mother and the father, basing his judgment on the infant's search behavior. These judgments were analyzed by a sign test to determine if infants engaged in auditorily guided looking that was detectable to an unbiased observer.

Results

The results of Experiment 2 appear in Figure 3. In the Mother-Father Condition, there was a marginally significant tendency to look first more often to the speaking parent, F (1, 17) = 3.56, $p < .08$. The effect of Speaker was significant in the analysis of Total looks, F (1, 17) = 7.37, $p < .015$. That effect was not significant in the Latency or Duration analyses, both Fs < 1. No other effects emerged in the analyses.

Preliminary analyses of searching in the Mother-Other Woman Condition revealed no effect of the familiarity of the second woman, so infants in that condition were treated as a single group. They showed a surprising tendency to look more often to the silent parent. This reverse effect of Speaker appeared in the analysis of First looks, F (1, 17) = 7.95, $p < .015$, but not in the analysis of Total looks, F (1, 17) = 1.74, $p > .10$. Infants looked more quickly at the woman whose voice was not heard, F (1, 17) = 8.63, $p < .01$, and they looked at the silent woman for a longer duration, F (1, 17) = 8.28, $p < .01$. No other effects were significant in these analyses.[3]

The observer who guessed the locations of the parents declined to make a judgment in the case of one infant, because he believed (incorrectly, in fact) that he could identify the infant's parents by their visible shoulders on the video screen. His judgments were correct for 19 of the remaining 26 infants, $p < .01$.

Discussion

The results of the Mother-Father Condition provide tentative

evidence that a four month old infant can search visually for a parent whose tape-recorded voice is played. Given the chance performance of the six observers who judged parental signaling from the video record, it appears that searching was not guided by a parent's vicarious, visible gestures but by intermodal knowledge.

The unexpected findings of the Mother-Other Woman Condition suggest that an infant may possess intermodal knowledge without engaging in intermodal exploration. This result conflicts with the findings of experiments in which a mother and unfamiliar woman's voice and face were mismatched: in those studies, an infant looked less at one woman's face when he heard another woman's voice (Cohen, 1973; Lewis & Hurowitz, 1977). Pending replication, no explanation of the result will be attempted.

General Discussion

These experiments investigated the relationship between intermodal knowledge and exploration. The older infants revealed intermodal knowledge of the mother and father through their visual search for the parent whose tape-recorded voice was played. Infants of 3-4 months may be beginning to use knowledge in the same way: although their behavior was less consistent, they appeared to engage in some auditorily guided looking.

In the natural environment, visual search for a heard object may be guided by the spatial direction of the sound and by auditorily synchronized visible movement of the object. The higher

incidence of searching in the live voice episode of the Experiment 1 suggests that infants are sensitive to one or both of these factors. In the absence of either source of information, however, infants are still able to search visually for the parent whose voice is heard, using knowledge to guide their looking.

This research indicates that for an infant, as for an adult, a sound may specify an object with particular visible characteristics. Young perceivers possess some of the knowledge which underlies the adult's experience of objects with multimodal properties from unimodal stimulation. These studies do not reveal how an infant develops intermodal knowledge. They indicate, however, that one must look for the roots of this development early in life. The auditory-visual search method used in these experiments could be adapted for studies of the development of intermodal knowledge (Spelke, 1977).

The results of this research underscore the cyclic connection between perceptual exploration and knowledge in infancy. The infant is an able and persistent seeker of multimodal information, and his exploration can be guided by the intermodal relationships that he has come to know. Intermodal exploration, directed by existing knowledge, may yield still more information about an object, further enriching the infant's knowledge of its multimodal properties.

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Footnotes

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[1]The reader will notice that it is also possible to calculate the first two measures from the second scoring procedure. These measures, so calculated, yielded average reliabilities of .64, .74, and .75 for First look and .83, .91, and .84 for Total looks at 3½, 5½, and 7½ months, respectively. These measures proved to be less sensitive indexes of intermodal knowledge for infants at the younger ages. On both measures, there was a main effect of Speaker, F (1, 24) = 9.76, $p < .005$ for First look, and F (1, 24) = 15.84, $p < .001$ for Total looks. This effect was qualified by an Age by Speaker inter-action on the latter measure, F (2, 24) = 3.96, $p < .05$. Tests for simple effects on the Total looks measure revealed that the tendency to look to the speaking parent was stable at 7½ months, F (1, 24) = 17.72, $p < .001$, and at 5½ months, F (1, 24)

= 5.27, $p < .05$. It was not significant at the youngest age, $F < 1$. The lesser sensitivity of this measure may be due to the fact that only looks occurring within a 5 sec time period were scored.

[2]An alternative possibility is that sound-guided search was attenuated in the tape-recorded voice episode because of the reduction in fidelity caused by the tape recording. This possibility seems unlikely to the authors, since the quality of the tape recordings was high.

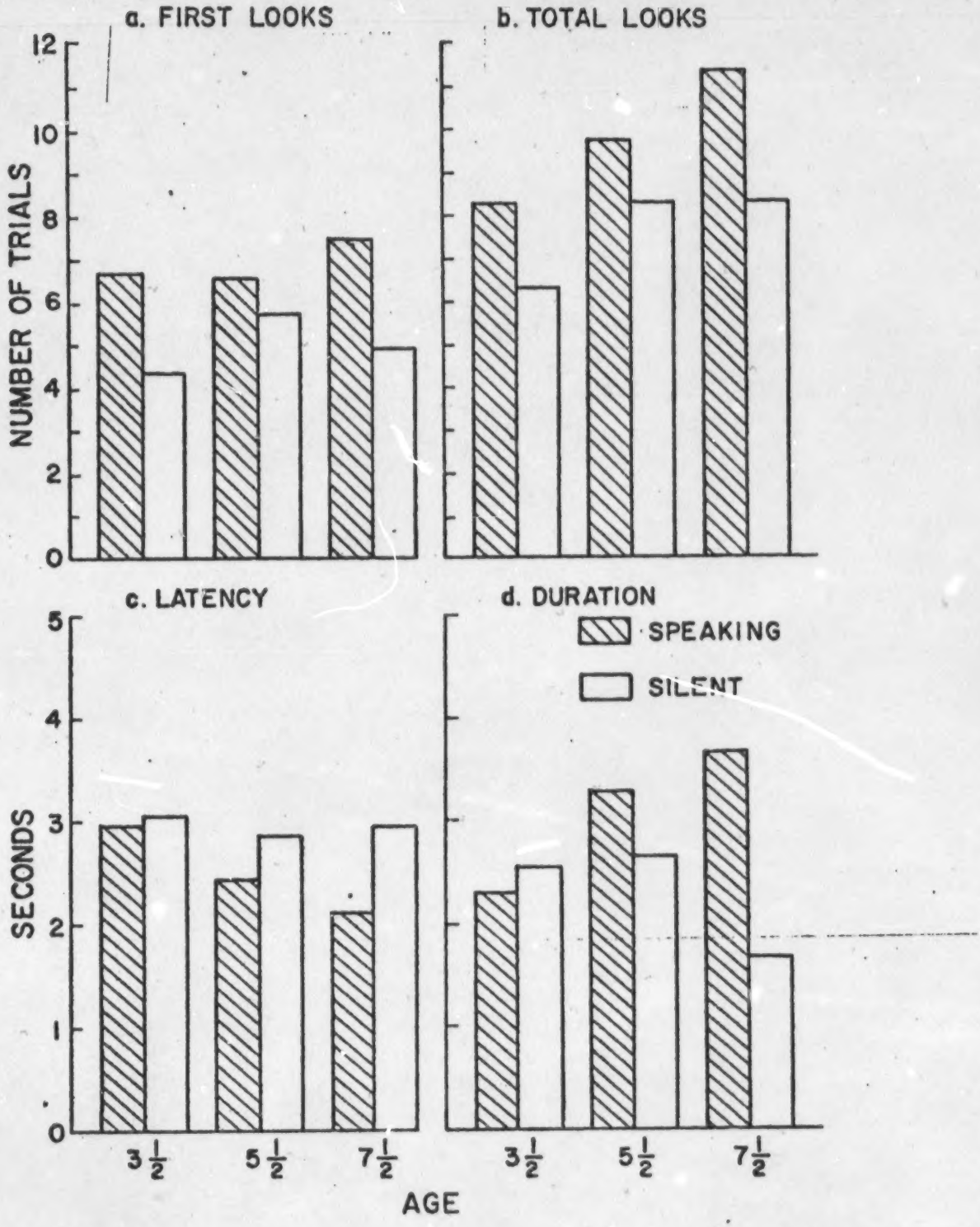
[3]When First and Total looks are calculated by the second scoring procedure, the main effect of Speaker escaped significance in the Mother-Father and in the Mother-Other Woman Conditions, all Fs < 3.00, $p > .10$.

Figure Caption

Figure 1. Visual search for the speaking and the silent parent: tape-recorded voice episode, Experiment 1.

Figure 2. Visual search for the speaking and the silent parent: live voice episode, Experiment 1.

Figure 3. Visual search for the speaking and the silent adult: Experiment 2.


a. FIRST LOOKS
b. TOTAL LOOKS
NUMBER OF TRIALS
0
2
4
6
8
10
12
c. LATENCY
d. DURATION
SPEAKING
SILENT
SECONDS
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1
2
3
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3 1/2
5 1/2
7 1/2
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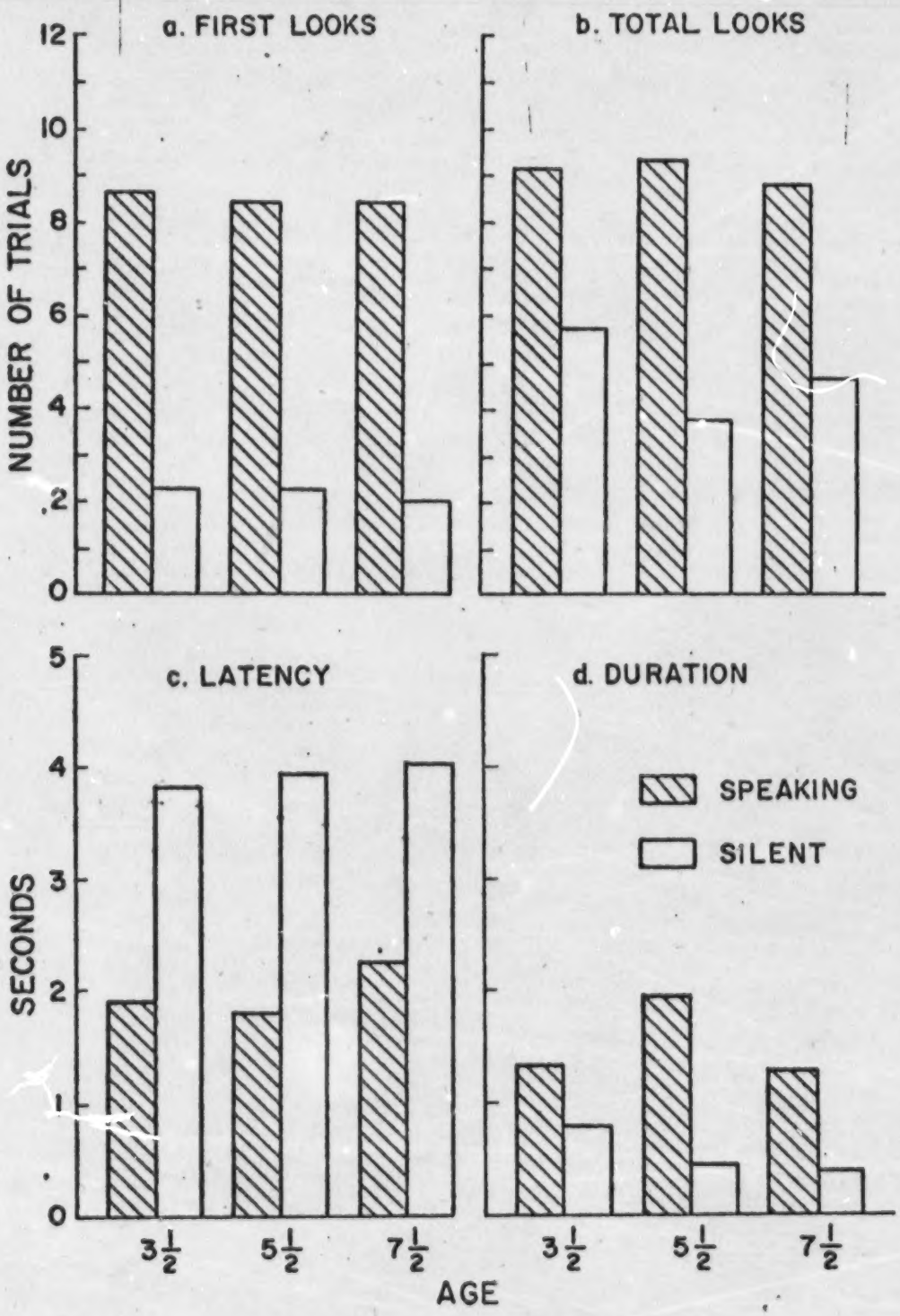
a. FIRST LOOKS
b. TOTAL LOOKS
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12
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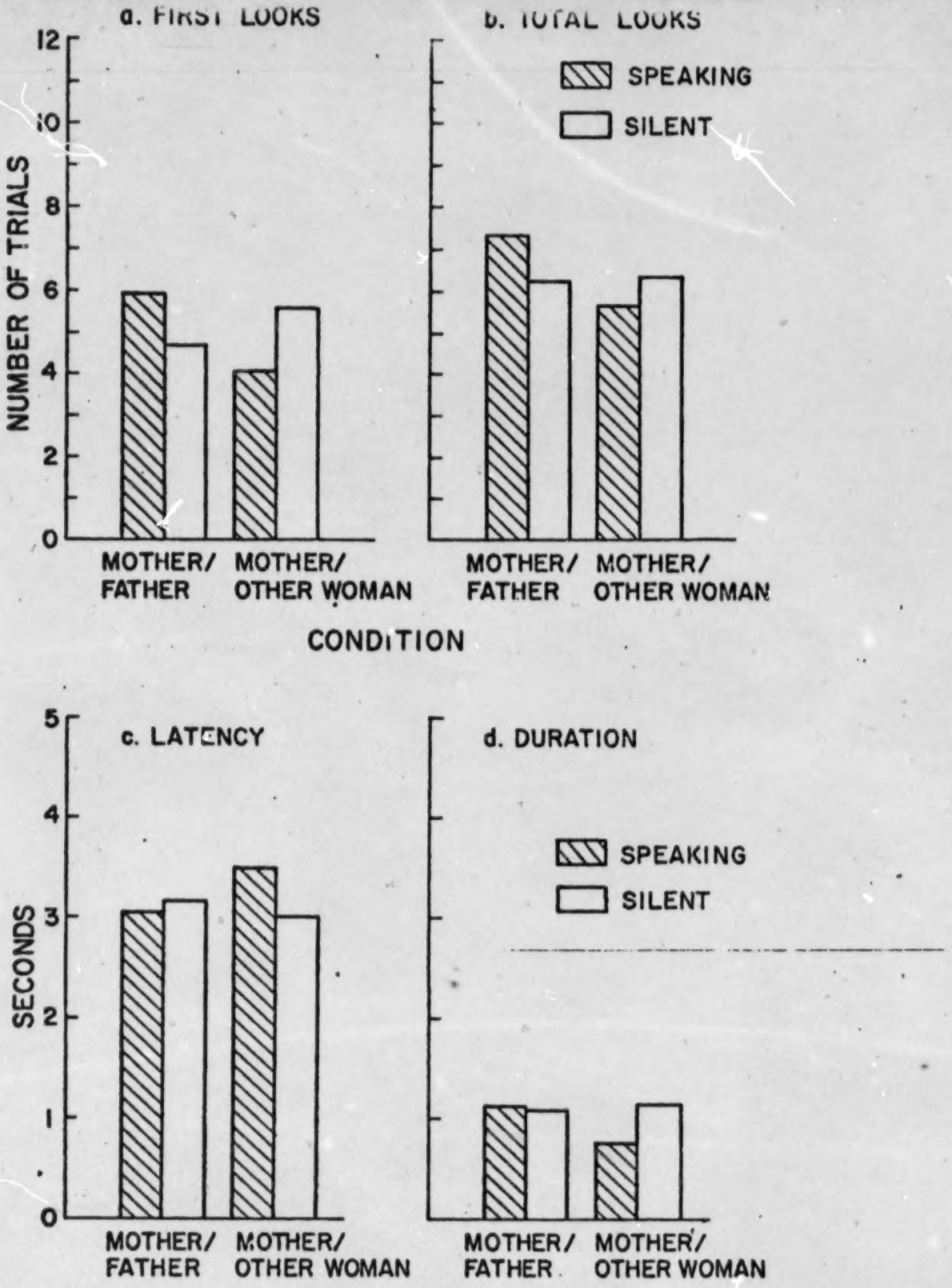
7 1/2
AGE


a. FIRST LOOKS
b. TOTAL LOOKS
SPEAKING
SILENT
NUMBER OF TRIALS
12
10
8
6
4
2
0
MOTHER/ FATHER
MOTHER/ OTHER WOMAN
MOTHER/ FATHER
MOTHER/ OTHER WOMAN
CONDITION
c. LATENCY
d. DURATION
SPEAKING
SILENT
SECONDS
5
4
3
2
1
0
MOTHER/ FATHER
MOTHER/ OTHER WOMAN
MOTHER/ FATHER
MOTHER/ OTHER WOMAN
CONDITION